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FAUNISTIC NOTE

Cynaeus angustus (Coleoptera: Tenebrionidae), a new alien beetle in Romania

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Abstract

Cynaeus angustus, a North American tenebrionid, is recorded for the first time in Romania. Its distribution in Europe and some data regarding its ecology are presented and discussed.

Keywords

Allochthonous, darkling beetles, Diaperinae, distribution, pest.

Introduction

Tenebrionidae Latreille, 1802 (commonly known as darkling beetles) comprises around 20000 species distributed worldwide (Bousquet et al. 2018); tenebrionid beetles can be generally recognized thanks to their 11-segmented antennae and their heteromerous tarsal (5-5-4) (Novák 2014). Some species are synanthropic, cosmopolitan and have economic importance being considered pests in Europe and abroad (e.g. *Gnatocerus cornutus* Fabricius; 1798, *Latheticus oryzae* Waterhouse, 1880; *Tenebrio molitor* Linnaeus, 1758; *Tribolium castaneum* Herbst, 1797 etc.) (Novák 2014).

The genus *Cynaeus* LeConte, 1862 (Tenebrionidae: Diaperinae: Diaperini), contains 2 species, namely *Cynaeus angustus* (LeConte, 1851) (originally ascribed to *Platydema*) and *Cynaeus depressus* Horn, 1870 (Bousquet et al. 2018). There was a

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third species, namely *Cynaeus opacus* Champion, 1886, which was synonymized with *Cynaeus angustus* by Blaisdell (1942) and later with *Cynaeus depressus* (Ferrer and Andersson 2002a, 2002b); we are following the latter synonymization for this paper.

C. angustus, native to the Nearctic region, was described from the desert of the Colorado River in California, from where it spread across USA (Dunkel et al. 1982). It was first intercepted in Europe (Ireland) in 1964, when infesting cargo with tobacco originating from the USA (Dunkel et al. 1982). However, the population probably was not the source of spreading for the species in Europe, since no other observations of *C. angustus* are reported from Ireland. The species was subsequently recorded in Finland (in 1989) (Mannerkoski and Ferrer 1992) and Sweden (in 1993) (Lundberg 1996), misidentified as *Cynaeus depressus* (Ferrer and Andersson 2002a, 2002b). It was then recorded in Germany (1996) (Reibnitz and Schawaller 2006), France (1997) (Soldati and Godinat 2013), Ukraine (2012) (Kovalenko et al. 2016), Czech Republic (2014) (Mantič and Vávra 2017), Poland (2015) (Ruta et al. 2017), European Russia (2016) (Kovalenko et al. 2016) and Latvia (2019) (Telnov et al. 2020).

We examined 4 specimens from Southern Romania, as follows: 4 males (Figs 1, 2), Giurgiu county, Comasca (near), one on 2 Jan. 2021, one on 4 Jan 2021, two on 23 Jan. 2021, 43.9391°N/26.0664°E. One specimen is stored in the personal collection of the first author (in Iași, Romania), two in the personal collection of the second author (in Măgurele, Romania) and one is deposited in the collection of "Grigore Antipa" National Museum of Natural History, Bucharest, Romania. The specimens

Figure 1. *Cynaeus angustus* in its microhabitat.

were found under the bark of *Populus* sp. stumps. The trees at the finding location were cut in the spring of 2020, leaving an open area (Fig. 3). The riparian forest along the Danube is mainly formed by *Populus* sp. and *Salix* sp., with the latter concentrated closer to the river. The humidity there is high all year round.

In its native habitat, *Cynaeus angustus* feeds on decaying plant remains (*Agave sp.*, *Yucca sp.*, and other semi-succulent species) (Dunkel et al. 1982), but in new occupied areas it was found frequently to feed on crop residues and stored products (especially corn, but also wheat, soybeans, oats, dried fruits, etc.) (Dunkel et al. 1982; Mannerkoski and Ferrer 1992; Lundberg 1996; Reibnitz and Schawaller 2006; Soldati and Godinat 2013), making it a species of minor economic importance, especially in USA (Dunkel et al. 1982). In Europe *C. angustus* can be also found in nature, under the bark of deciduous (*Ulmus* sp. (Kovalenko et al. 2016), *Fagus* sp. (Ruta et al 2017), *Populus* sp. (this study)) and coniferous trees (*Pinus* sp. (Wikars 2014)). It is also attracted to light (Dunkel et al. 1982; Mannerkoski and Ferrer 1992; Reibnitz and Schawaller 2006; Kovalenko et al. 2016; Eichler and Pütz 2017; Novák et al. 2019; Novák and Ryšanek 2020; Telnov et al. 2020). *Cynaeus depressus* was recorded so far only in Sweden (Andersson and Ferrer 1989), where it was originally misidentified as *Cynaeus angustus* (Ferrer and Andersson 2002a, 2002b). *C. depressus* can be

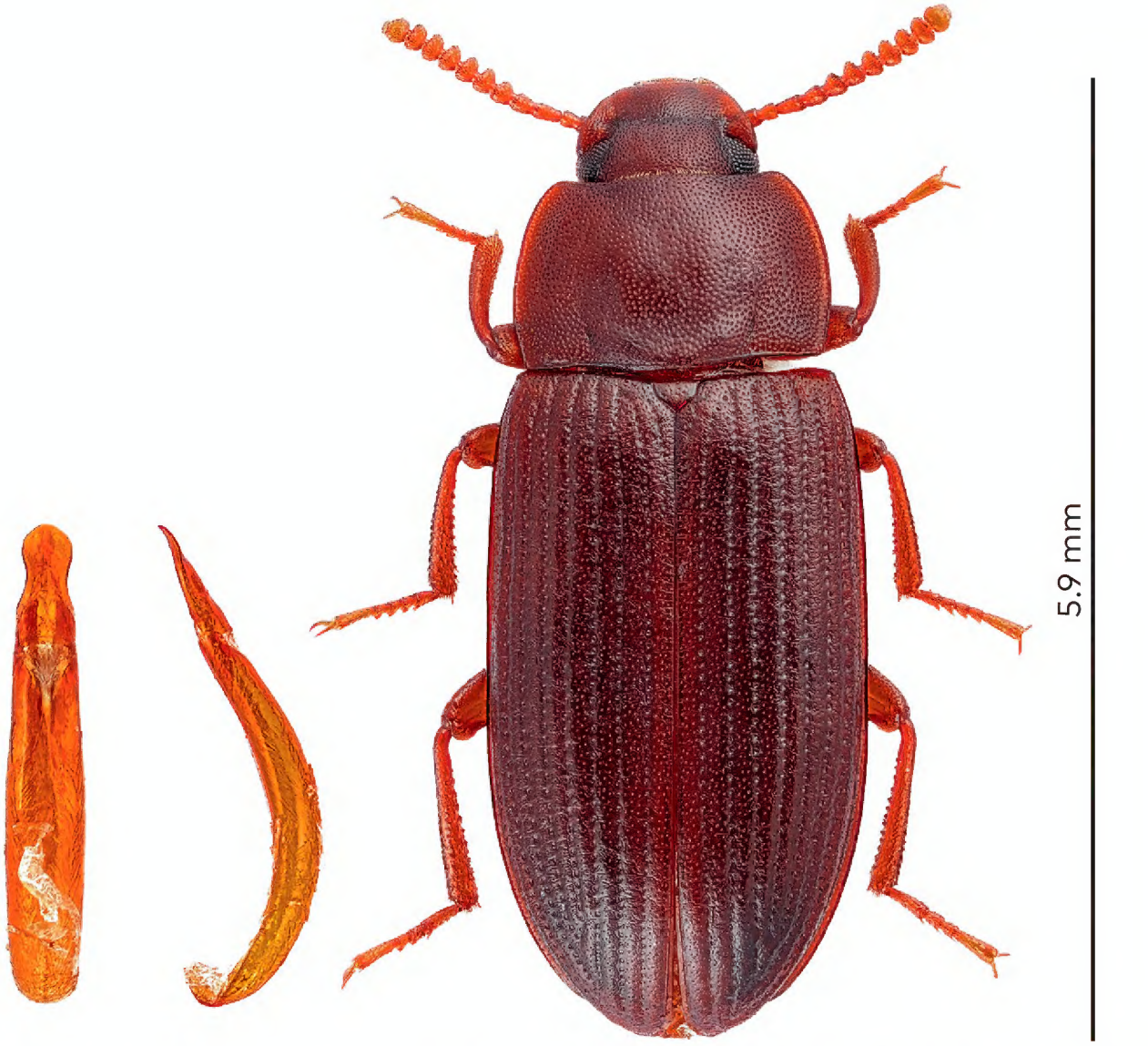

Figure 2. Habitus (dorsal view) and aedeagus (dorsal and lateral view) of *Cynaeus angustus*.

Figure 3. Habitat of *Cynaeus angustus* in Comasca, Romania.

differentiated by *C. angustus* especially by its blackish elytra and apically lanceolate aedeagus in dorsal view (the latter has reddish brown integuments and apically rounded aedeagus (Fig. 2)).

At the moment there are no information about the substantial effects on human activities and natural environment of *Cynaeus angustus* in Europe; for this reason it is important to keep monitoring the spreading of the species and whenever possible characterize its biology and ecology outside the native range.

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